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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,497	06/02/2006	Babak Heidari	AOBDP0105US	3831

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RENNER OTTO BOISSELLE & SKLAR, LLP  
1621 EUCLID AVENUE  
NINETEENTH FLOOR  
CLEVELAND, OH 44115

EXAMINER
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BROWN II, DAVID N

ART UNIT	PAPER NUMBER
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1743

MAIL DATE	DELIVERY MODE
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11/05/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,497	<b>Applicant(s)</b> HEIDARI ET AL.	
	<b>Examiner</b> DAVID N. BROWN II	<b>Art Unit</b> 1743	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/12/2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/13/2010</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This is a final action in response to the correspondence dated 10/12/2010.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 8-9 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,482,742 (Chou).

Chou teaches an apparatus for transferring a pattern from a template (mold 10) to a substrate (20) carrying a radiation polymerizable fluid (21) with first part (10) and second main part (20+21) having opposing surfaces. The imprinting operation adjusts the spacing between the parts (imprinting; abstract). Support means (67A and 67B or 74 and 75 or 72 and 79) keep the parts in mutual parallel engagement. Chou teaches a radiation source (column 4 lines 27-31). The containers labeled 60 or 61 have first walls comprising flexible membranes (plastic bag 40, taught to be flexible, column 5 lines 21-23 also in figure 6b, sealing clamp 21 taught to be elastic, column 5 lines 27-28) The flexible membranes engage either the template or the substrate (Once the air is removed, they will contact each other see column 5 lines 19-34, Chou teaches that in use the clamp and pressurized fluid press the protruding region into the film). They are transparent (column 3 lines 3-8, column 4 lines 26-31); the radiation source is behind

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the membrane. Chou teaches a means for applying an adjustable overpressure (column 5 lines 16, 31, 55-62, column 6 lines 4-9).

Claims 2-4:

Chou teaches the use of air at 500psi (35 bar). (column 6 line 27)

Claim 5:

Figures 6A and 6B show a cavity defined by a part of the surface of the first main part, a flexible seal member arranged in and protruding from the main part surface and the membrane engaging the seal member. The main parts are shown within the containers (having cavities therein). Part 60 is an evacuated plastic bag. Part 61 is a sealing clamp.

Claim 6:

The bag is cut off and the mold is separated from the substrate (column 6 lines 35-37).

Under pressure, the mold is pressed into the PMMA (column 6 lines 30-31).

Claim 8:

One or both of the mold and the substrate are taught to be transparent. The mold is taken to be the first main part.

Claim 9:

See column 3 lines 6-8. This area of Chou describes the first main part as being made of quartz.

Claim 12:

Chou teaches the use of a plastic material (column 3 lines 16-17).

Claim 13:

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Chou teaches the use of a 4" wafer (roughly 200mm). This wafer is the substrate, taken to be the membrane.

Claim 14:

The substrate described is flexible and transparent. It, according to the interpretation offered by the examiner, acts as the membrane. This has been mentioned above in the rejection of claim 1 where first part (10) and second main part (20+21) having opposing surfaces was described.

3. Claim 10 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,482,742 (Chou).

Chou is silent as to the wavelengths of radiation used. Chou teaches the use of UV radiation (column 4 lines 26-28). The UV range is from 10-400nm. Either Chou operates in the claimed radiation range or it would have been obvious to one having ordinary skill in the art at the time of the invention to operate within this range. Such wavelengths are suggested by Chou since Chou teaches operating in the UV range.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,482,742 (Chou) in view of US 4,095,113 (Wolff).

Chou teaches the use of UV radiation but is silent as to the device used to produce it. Wolff teaches a xenon lamp capable of operating with a pulse duration of 0.5- 10 micro seconds and a pulse rate of 1-10 pulses per second. It would have been obvious to one

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having ordinary skill in the art at the time of the invention to use Wolfe's xenon lamp as a source of UV radiation for the invention of Chou. This amounts to combining prior art elements according to known methods.

### ***Response to Arguments***

6. Applicant's arguments filed 10/12/2010 have been fully considered but they are not persuasive.

7. Applicant's argument that the Examiner's position that the mold 10 is both the template and the flexible membrane, or that the substrate 20 is both the substrate and the flexible membrane is inconsistent with the apparatus presently claimed has been considered. The claims have been amended to specify that the first wall of the cavity comprises a flexible membrane and the rejection has been adjusted accordingly. As a result, this argument is moot in view of the new ground of rejection.

Applicant's argument that Chou et al. fails to disclose a cavity having a first wall, the first wall comprising a flexible membrane devised to engage either the template or the substrate, and means for applying an adjustable overpressure to a medium present in the cavity wherein the membrane is transparent to a wavelength range of said radiation, the radiation source being positioned behind said membrane has been considered but it is not persuasive. The containers labeled 60 or 61 have first walls comprising flexible membranes (plastic bag 40, taught to be flexible, column 5 lines 21-23 also in figure 6b, sealing clamp 21 taught to be elastic, column 5 lines 27-28) The flexible membranes engage either the template or the substrate (Once the air is removed, they will contact each other see column 5 lines 19-34, Chou teaches that in use the clamp and

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pressurized fluid press the protruding region into the film). They are transparent (column 3 lines 3-8, column 4 lines 26-31); the radiation source is behind the membrane. Chou teaches a means for applying an adjustable overpressure (column 5 lines 16, 31, 55-62, column 6 lines 4-9).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID N. BROWN II whose telephone number is (571)270-5497. The examiner can normally be reached on Monday-Thursday 7:30a-5:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)-272-1130. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID N. BROWN II/  
Examiner, Art Unit 1743

/Joseph S. Del Sole/  
Supervisory Patent Examiner, Art Unit 1743